

Title (en)

IMPROVING THE EFFICIENCY OF AN ETHANOL FERMENTATION PLANT

Title (de)

VERBESSERUNG DER EFFIZIENZ EINER ETHANOLVERGÄRUNGSANLAGE

Title (fr)

AMÉLIORATION DU RENDEMENT D'UNE INSTALLATION DE FERMENTATION D'ÉTHANOL

Publication

**EP 2864460 A1 20150429 (EN)**

Application

**EP 13806591 A 20130620**

Priority

- US 201261662019 P 20120620
- US 2013046745 W 20130620

Abstract (en)

[origin: WO2013192391A1] A method of hydrothermally treating stillage by heating stillage to 200 degrees F to 350 degrees F, altering physicochemical properties of the stillage, enabling facile separation of the stillage, and creating unique product fractions. A method of performing ethanol fermentation by treating stillage to enable facile separation by heating the stillage to a temperature of 200 degrees F to 350 degrees F, and separating the treated stillage to recover a high protein solids fraction, a stickwater fraction, and an oil fraction. A method of improving fermentation by heating stillage to a temperature of 200 °F to 350 °F resulting in hydrothermally treated stillage, using all or a portion of the hydrothermally treated stillage as a component of a media, and using the media for a process including fermentation and biomass production. Oil, stickwater, high protein solids fraction, high protein meal, metabolites, biomass, and media obtained from the methods above.

IPC 8 full level

**C11B 1/00** (2006.01); **B01D 3/00** (2006.01); **C02F 1/52** (2006.01); **C12P 7/06** (2006.01); **C12P 7/08** (2006.01); **C02F 103/36** (2006.01)

CPC (source: EP US)

**B01D 3/002** (2013.01 - EP US); **B01D 3/14** (2013.01 - US); **C02F 1/52** (2013.01 - US); **C12P 7/06** (2013.01 - EP US); **C12P 7/08** (2013.01 - EP US); **C02F 2103/36** (2013.01 - US); **Y02E 50/10** (2013.01 - EP US)

Cited by

EP3763222A1; US11485990B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2013192391 A1 20131227**; BR 112014031530 A2 20170627; CA 2875344 A1 20131227; EP 2864460 A1 20150429; EP 2864460 A4 20160224; US 2013344554 A1 20131226; US 2014017728 A1 20140116; US 2015238881 A1 20150827; US 8722911 B2 20140513; US 9029126 B2 20150512

DOCDB simple family (application)

**US 2013046745 W 20130620**; BR 112014031530 A 20130620; CA 2875344 A 20130620; EP 13806591 A 20130620; US 201313870261 A 20130425; US 201313922497 A 20130620; US 201514708474 A 20150511